

On two new Species of *Rhax*. By HENRY M. BERNARD, M.A., Cantab. (From the Huxley Research Laboratory, Royal College of Science, London.) (Communicated by W. PERCY SLADEN, Sec. Linn. Soc.)

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(PLATE XXVI.)

IN furtherance of researches which I am now carrying on in the above-mentioned laboratory on the Galeodidæ, specimens were obtained from the well-known naturalist, Herr Fric, of Prague. Two of them were labelled "*Aellopus*, sp., from Vellore, Madras, found by the missionary Lövendal." The third was unnamed, but Herr Fric informs me that it was found near Geogh Teppe by an engineer who had been with General Anenkov during the construction of the Transcaspian railway. The specimens, however, were not the extremely rare *Aellopus*, but two different species of *Rhax*, both of which appear to be new.

*RHAX NIGROCINCTA*, n. sp. (Pl. XXVI. fig. 2.)

There are two specimens, the sexes of which are not easy to determine without dissection. One has a very much distended abdomen; but this I have found may be due to a large meal, and does not necessarily mean that the animal is a pregnant female distended with eggs. Again, the absence of flagella on the mandibles is no criterion of sex; for although it is generally stated that these organs are confined to the males, I have found them on a specimen of *Galeodes græcus*, Koch, which, on dissection, proved to be a female.

The normal length is about  $1\frac{1}{2}$  inch, while the specimen with distended abdomen measures 2 inches. The nearest species I can find is *R. annulata*, Simon\*, which, however, is only 18 millim. long. This animal has very nearly the same black markings round the limbs as I have figured for *Rhax nigrocincta*, only the rings on the second, third, and fourth legs in the latter are on the tibia, and not on the femur as described for *R. annulata*; and the second ring on the third leg is on the metatarsus, and not on the tibia. Simon makes no mention of the very conspicuous triangular white patches at the anterior margin of the "head."

Simon's description of the colouring of the abdomen in *R. an-*

\* Bull. Soc. Zool. x, p. 2.

*nulata* does not seem to resemble very closely that of *R. nigrocincta*, which has an apparently continuous broad yellowish-white band down the middle dorsal line; but in the specimen with distended abdomen the anterior margins of the segments are also seen to be coloured. The red-brown colour of the rest of the abdomen is deeper on the ventral surface, the difference between the two shades being sudden and sharp. A regular dark band along the ventral abdominal surface seems common to many species of *Rhax*. Simon describes the anal segment in *R. annulata* as black: in *R. nigrocincta* the prevailing colour of the segment is olive-green; it is covered with minute wart-like protuberances with white tips.

Of other characters employed by Simon\* for the classification of these animals, I may mention that the ocular tubercle is oval and transverse, the eyes are small, and the interval between them is somewhat larger than the diameter of the eyes themselves.

*RHAX HOWESII*, n. sp. (Pl. XXVI. fig. 1.)

This species differs in several important points from the foregoing. While the "head" and chelicerae are of the same colour, the anterior edge of the former is marked by a pure white line, hardly distinguishable from the white articulating membrane of the mandibles, which shows very conspicuously at their bases. The thoracic segments behind the "head" are pure yellowish white, as are the legs, which latter have no trace of the black rings characteristic of the Gundacul and the Vellore species (*R. annulata*, Simon, and *R. nigrocincta*, n. sp.). The pedipalp and the first pair of legs are, however, tipped with purplish brown, and have a broad band of the same round the femur. The colouring of the abdomen, again, is different from that of any *Rhax* of which I have been able to find a description. The dorsal surface is purplish brown without any median white band: the colour gets lighter laterally till the ventral surface is quite light, but spotted with darker patches so arranged as to appear to be the remains of the dark band of colour so common on the ventral surface in this genus. The anal segment is dark purplish black round the anus itself, while its anterior margin is yellowish white. The segment preceding the anal segment is entirely

\* "Essai d'une classification des Galeodes," Ann. Soc. Ent. Fr. (5<sup>e</sup> sér.) t. 9 (1879).

yellowish white, which colour spreads dorsally forwards to form a triangular patch ending in a blunt point on the fourth segment from the last.

The ocular tubercle is very smooth, of a bright green colour, oval and transverse, the eyes being larger than in the last-named species, and the interval between them being decidedly less than their diameter.

The nearest species I can find to this is *R. melanopyga*, Walter\*, but there are differences which must, at least at present, be considered as specific. For instance, in *R. melanopyga*, the white patch round the anus runs forward right along the dorsal abdominal surface; it, however, shows signs of narrowing before reaching the cephalothorax. The colour on the femora of the pedipalps and first legs in *R. melanopyga* is described by Walter as a smoke-grey (*Rauchgrau*); this smoke-grey must have been very faint, as the zoological artist Sokolovski has not given a hint of it in his drawing; all the legs are a uniform yellow.

In the case of each of these new species, that nearest in character is also nearest in geographical distribution. The new *R. nigrocincta* and the *R. annulata* of Simon, with which it is most nearly akin, were both found in India, about 200 miles apart. And, again, Dr. Walter's *R. melanopyga* was found by him near Askabad, 50 miles from Geogh Teppe.

As long as the animals remain so rare it is obviously futile to discuss the question as to whether any new discoveries are only varieties or new species. Provided they are sufficiently distant from one another, and show any striking differences of coloration, there is nothing for it but to label them as new, leaving it to future discoverers of the transition forms to draw the lines between the species.

The specimens shown in Plate XXVI. have been deposited as types in the Natural History Museum at South Kensington.

#### EXPLANATION OF PLATE XXVI.

Fig. 1. *Rhax Howesii*. Dorsal and ventral aspects.

2. *Rhax nigrocincta*. Dorsal and ventral aspects.

N.B.—In the drawings the femora of the first and second limbs have been foreshortened.

\* Zool. Jahrb. iv. pt. 1, pp. 1095-1109.

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2



M P Parker del et lith.

West, Newman imp

1. RHAX HOWESII, n.sp. 2. RHAX NIGROCINCTA n.sp.